

In the Claims:

Please amend claims 1-24 as indicated below.

1. (Currently amended) A system, comprising:

a plurality of servers in a cluster, wherein each server comprises a respective timer service of a plurality of timer services and is configured to execute an instance of one or more application[[s]] instances; and

a failure detection service operable to detect a failure in the plurality of servers in the cluster;

wherein each given timer service of said plurality of timer services is operable to:

service timer requests from the one or more application instances on [[its]]
the respective server that comprises said given timer service;
[[and]]

in response to the failure detection service detecting a failure of an other timer service of said plurality of timer services on an other server of said plurality of servers, assume one or more pending timer requests of the other timer service, wherein, prior to the failure detection service detecting said failure, said one or more pending timer requests are designated to be serviced by said other operations from a failed timer service in the cluster; and

service the one or more pending timer requests assumed by the given timer service.

2. (Currently amended) The system of claim 1, wherein each given timer service of said plurality of timer services is further operable to:

wait for a specified time period prior to assuming the one or more pending timer requests of the other operations from a failed timer service in the cluster after the failure detection service detects ~~[[a]]the failure of said other timer service;~~ and

~~[[only]]assume the one or more pending timer requests in response to determining that said other operations if the failed~~ timer service ~~[[does]]has not recovered from the failure~~ within the specified time period.

3. (Currently amended) The system of claim 1, wherein upon assuming the one or more pending timer requests operations from ~~[[a]]said other failed~~ timer service, the given timer service is operable to service said one or more pending timer requests by provid~~[[e]]ing~~ ~~[[any]]one or more~~ missed timer notifications to one or more of the application instances.

4. (Currently amended) The system of claim 3, wherein each given timer service configured to assume~~[[ing]]~~ the one or more pending timer requests operations from ~~[[a]]~~ said other failed timer service is operable to service said one or more pending timer requests by delivering ~~[[any]]one or more~~ missed timer notifications ~~of timer operations~~ to a fail-over application instance ~~of the application~~.

5. (Currently amended) The system of claim 1, further comprising a timer database ~~operable to stor~~~~[[e]]ing~~ information indicating ~~[[on]]~~ one or more pending timer requests as designated to be serviced by respective ones of said plurality of timer services operations.

6. (Currently amended) The system of claim 5, wherein each timer service of said plurality of timer services is operable to acquire ~~[[the]]~~ information indicating ~~[[on]]~~

the one or more pending timer requests designated to be serviced by said other timer service operations from the timer database upon assuming the one or more pending timer requests operations from the ~~failed~~other timer service.

7. (Currently amended) The system of claim 1, wherein each server ~~comprises~~is configured to execute a respective instance of the failure detection service.

8. (Currently amended) The system of claim 1, wherein each of said one or more pending timer requests of said other ~~operation of the failed~~ timer service is assumed by only one ~~[[active]]~~respective timer service in the cluster.

9. (Currently amended) A method, comprising:

executing each of a plurality of application instances on a respective server of a plurality of servers in a cluster ~~of servers~~;

~~servicing for each of~~ one or more timer requests from one or more of the plurality of application instances executing on a particular server~~[[one]] of said plurality of [[the]] servers, servicing the timer request via [[with]] a given~~ timer service located on ~~[[that]]~~the particular server;

detecting a failure of the given timer service, wherein, prior to the detection of said failure, one or more pending timer requests are designated to be serviced by said given timer service; ~~[[and]]~~

in response to ~~[[said]]~~ detecting said failure, each of one or more other timer services executing on one or more of the plurality of servers assuming at least one of said one or more pending timer requests operations from the failed said given timer service in the cluster; and

for a each given pending timer request assumed by a respective timer service of said one or more other timer services, servicing the given pending timer request via the respective timer service that assumed said given pending timer request.

10. (Currently amended) The method of claim 9, further comprising:

at least one of said one or more other timers services waiting for a specified time period prior to said assuming the one or more pending timer requests operations from the failedgiven timer service in the cluster after [[said]] detecting [[a]]said failure of the given timer service; and

[[only]]said at least one of said one or more other timer services assuming the one or more pending timer requests in response to determining that said given operations if the failed timer service [[does]]has not recovered from the failure within the specified time period.

11. (Currently amended) The method of claim 9, further comprising, subsequent to assuming the one or more pending timer requests from the failed timer service, providing via said one or more other timer services one or more [[any]] missed timer notifications to the one or more application instances upon assuming the one or more timer operations from the failed timer service.

12. (Currently amended) The method of claim 11, wherein said providing one or more [[any]] missed timer notifications to the one or more application instances comprises delivering [[any]]said one or more missed notifications to a fail-over application instance of the application.

13. (Currently amended) The method of claim 9, further comprising storing information [[on]]indicating the one or more pending timer requests operations in a timer database accessible to said one or more other timer services.

14. (Currently amended) The method of claim 13, further comprising acquiring, via the one or more other timer services, the information [[on]] indicating the one or more pending timer requests ~~operations of the failed timer service~~ from the timer database ~~upon said~~ subsequent to assuming the one or more timer operations from the ~~failed~~ given timer service that has failed.

15. (Currently amended) The method of claim 9, wherein each server of the plurality of servers in the cluster comprises an instance of a timer service and an instance of a failure detection service to detect failures of timer services on other servers of the plurality of servers in the cluster.

16. (Currently amended) The method of claim 9, wherein each pending timer request ~~operation of a failed~~ said given timer service is assumed by ~~only one~~ a different ~~active~~ timer service in the cluster.

17. (Currently amended) A computer accessible medium storing computer-executable program instructions configured to implement a distributed timer service, wherein each instance of the distributed timer service is configured to:

service one or more timer ~~operation~~ requests from one or more application instances executing on ~~the same~~ server on which [[as]] the instance of the distributed timer service is executing, wherein said server is one of a plurality of servers in a cluster ~~of servers~~;

receive notification of a failure of an other instance of the distributed timer service executing on another server of said plurality of servers in the cluster, wherein, prior to said failure of said other instance of the distributed timer service, one or more pending timer requests are designated to be serviced by said other instance of the distributed timer service; [[and]]

in response to said notification, assume[[ing]] one or more pending timer requests ~~operations~~ from the ~~failed~~other instance of the distributed timer service ~~instance~~ in the cluster; and

for each pending timer request that is assumed, servicing the pending timer request.

18. (Currently amended) The computer accessible medium of claim 17, wherein each instance of the distributed timer service is further configured to:

after receiving said notification, wait for a specified time period prior to [[said]]
assuming the one or more pending timer requests ~~operations~~ from the ~~failed~~other instance of the distributed timer service ~~instance~~ in the cluster
~~after receiving said notification; and~~

[[only]]assuming the one or more pending timer requests in response to
determining that the other instance of the distributed ~~operations if the~~
~~failed~~ timer service [[does]]has not recovered from the failure within the
specified time period.

19. (Currently amended) The computer accessible medium of claim 17, wherein each instance of the distributed timer service is configured to implement: [[for]]
providing [[any]]one or more missed timer notifications to the one or more application
instances [[upon]]subsequent to assuming the one or more pending timer requests
~~operations~~ from a ~~failed~~the other instance of said distributed timer service.

20. (Currently amended) The computer accessible medium of claim 19, wherein
said providing [[any]]one or more missed timer notifications to the one or more
application instances comprises delivering [[any]]one or more missed notifications to a

fail-over instance of an application that ~~[[had]]~~ originally requested the timer operation from the other instance of the distributed ~~failed~~ timer service ~~instance~~.

21. (Currently amended) The computer accessible medium of claim 17, wherein each instance of the distributed timer service is configured to store information in a timer database, said information indicating ~~[[on]]~~ one or more timer requests ~~operations in a timer database~~.

22. (Currently amended) The computer accessible medium of claim 21, wherein each instance of the distributed timer service is configured to acquire information ~~[[on]]~~indicating the one or more pending timer requests ~~operations of the failed~~other instance of the distributed timer service ~~instance~~ from the timer database ~~[[upon]]~~subsequent to assuming the one or more pending timer requests ~~operations~~ from the ~~failed~~other instance of the distributed timer service ~~instance~~.

23. (Currently amended) The computer accessible medium of claim 17, wherein ~~[[the]]~~an instance of said distributed timer service is configured to run on each server of the plurality of servers in the cluster.

24. (Currently amended) The computer accessible medium of claim 17, wherein ~~[[the]]~~each instance of the distributed timer service ~~instance~~ is configured to not assume a particular timer operation of the failed timer service instance ~~[[if]]~~in response to a determination that another instance of the distributed timer service ~~instance~~ in the cluster has already assumed ~~[[that]]~~the particular timer operation.